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Atmanirbhar Bharat Meets the Circular Economy: Nationalism, Resource Security, and the Political Framing of Waste in India

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Abstract

Waste, in the ordinary political imagination, is a governance problem to be minimised and a liability requiring disposal. India's recent circular economy policy turns this assumption on its head. Drawing on three reports released by NITI Aayog in January 2026 on end-of-life vehicles (ELVs), waste tyres, and e-waste and lithium-ion batteries, this paper examines how waste has been reconstituted in Indian policy discourse as a matter of national strategic interest rather than environmental management alone. The central argument is that India's circular economy agenda functions as a form of green developmentalism by fusing ecological rationality with nationalist industrial strategy under the banner of Atmanirbhar Bharat (Self-Reliant India), producing a mode of environmental governance that is analytically distinct from both the green capitalism of the Global North and the environmental pragmatism associated with multilateral sustainability frameworks. The analysis draws on green political economy, ecological modernisation theory, and discourse analysis to show how this framing simultaneously empowers the state, disciplines the informal recycling sector, and suppresses questions of labour rights and distributive justice. These tensions, the paper concludes, are not incidental to India's circular economy project rather they are constitutive of it.

Keywords: *Atmanirbhar Bharat, circular economy, green political economy, ecological modernisation, waste governance*

Introduction

The three reports published by National Institution for Transforming India (NITI Aayog) in January 2026 on end-of-life vehicles, waste tyres and e-waste, as well as lithium-ion batteries, resolves that India has a waste problem that can be solved through policy making. Cross reading the three reports as a set adds more to the story. The consistent narrative is more than just its ecological emphasis. Waste, in these reports, is a resource India is literally throwing away, a mineral treasure, industrial feedstock and strategic sovereignty that we must not squander to the informal recyclers, low value pyrolysis and imports. As the e-waste report puts it, the advancement of the circular economy is how India will "convert E-waste and Lithium-ion Battery scraps into strategic resource reservoirs, reduce exposure to volatile global supply chains, and consolidate its leadership in sustainable and clean-tech value chains" (NITI Aayog, 2026b, p. 5). This is the discourse of national security, not environmental sustainability.

The argument here is that India's circular economy governance is what I'm calling green developmentalism, a policy approach that mobilises ecological reason to the service of nationalist industrial policy, resulting in policy that is both green and developmentalist in ways that are inseparable. This formulation draws on Paterson (2007) green political economy, Hajer (1995) ecological modernisation, and

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Dryzek (2013) environmental discourses, to make sense of a (comparatively) distinctive version of environmental statecraft. It is not the green capitalism of Germany or the EU, in which ecological concerns impose constraints from outside. It is not the environmental pragmatism of the multilateral sphere, which replaces the national development processes. It is something more Indian, growing out of the long legacy of post-independence development and now re-articulated in terms of resource sovereignty, critical minerals and green industrial leadership. The study explore this ensemble, focusing in particular on its affordances and denials.

Theoretical Framework

To make sense of India's circular economy policy, it's not enough to do environmental policy analysis. It needs a theoretical framework that can bring together issues of political economy, ideology, state and social justice; in other words, green political economy. Paterson (2007) in his work on the political economy of automobility argues that ecological governance is also social governance, where decisions about what gets recycled, by whom, and under what regulatory framework creates spatial, distributional and social effects that capture and reflect existing social relations of wealth and power. Newell and Paterson (2010) make the same point about climate governance more generally, with carbon markets and green investment serving accumulation needs, despite their environmental goals. The equivalence for waste governance is obvious in new markets created by Extended Producer Responsibility (EPR) schemes, new regulatory compliance obligations, and new opportunities for capital accumulation, while attaining important environmental outcomes.

A second line of argument comes from the theory of ecological modernisation (Mol, 1995; Hajer, 1995). Its core claim being that modern industrial societies have learned to cope with their ecological contradictions by means of institutional reform and technological innovation, rather than structural transformation. The idea of the ecological modernisation discourse (Hajer, 1995) is helpful in this context. This refers to a policy discourse in which environmental protection and economic growth are not seen as opposing, but complementary. Where greening the economy makes it also leaner and fitter and where market mechanisms like EPR can be used to achieve environmental goals without the state having to deal with capital directly. The NITI Aayog reports faithfully reproduce this grammar. EPR is the instrument of choice in the three sectors. First, recyclers are advised to use carbon credits as their income source. Second, formalisation is achieved through market mechanisms rather than regulation. And, third, the idea of sustainability is conflated with industrial development, and indeed as an inducement to development.

But the ecological modernisation theory cannot explain the nationalist dimension of the Indian approach. Dryzek's (2013) typology of environmental discourses is useful here as it emphasises the different ways in which problems, actors, and solutions are constituted discursively. Dryzek characterises ecological modernisation as a discourse that seeks reform within existing social arrangements, while greening them. NITI Aayog reports shows an ecological modernisation with resource nationalism in which dependence on imports for critical minerals is understood as a strategic threat and domestic recycling is seen as a solution. This discourse combines ecological modernisation with resource nationalism being called here as green developmentalism. It has similarities with the developmental statism of mid-20th century East Asia (Evans, 1995; Johnson, 1982) in its approach, where the state plays an active role in shaping industrial development rather than merely intervening to correct market failures, but it does so in the novel context of the green transition.

Circular Economy as National Discourse

The most obvious sign of the enrolment of the circular economy in a nationalist project is the persistent recourse to the Prime Minister's vision in NITI Aayog reports. The e-waste report begins by stating that it aligns with "the Hon'ble Prime Minister's vision for Atmanirbhar Bharat (Self-Reliant India), which is focused

on the growth of clean technologies like renewable energy, electric vehicles (EVs) and digital" industries (NITI Aayog, 2026b, p. 5). The end of the executive summary of the tyre report informs us that the recommendations in the report "will support the Government's Make in India initiative, improve industrial competitiveness, and contribute to broader national commitments on resource efficiency and sustainable development" (NITI Aayog, 2026a, p. vii). These are not incidental rhetorical gestures rather they are constitutive of how the policy problem is defined. The circular economy is not framed as a response to ecological crisis in any primary sense. It is framed as a response to national vulnerability.

Anderson's (1983) account of nationalism as an act of collective imagination is illuminating here. Nations, on his account, are communities imagined into being through shared narratives of common destiny. What the NITI Aayog reports offer is a particular kind of nationalist imagination, one in which Indians are invited to see in waste tyres, discarded mobile phones, and ageing cars not as wate but as raw material for national renewal. What becomes a token of India's self-sufficiency waiting to be realised are the discarded cars, the spent lithium-ion battery, the worn truck tyre. The numbers give this imaginary a material weight. India generated approximately 4.2 MMT of tyres in FY 2024 alone (NITI Aayog, 2026a). The country had an estimated 23 million End-of-Life Vehicles (ELVs) in circulation by the end of 2025, a figure projected to reach 50 million by 2030 (NITI Aayog, 2026c). It ranked third globally in e-waste generation (NITI Aayog, 2026b). The political invitation is to imagine them not as a burden but as an asset in the form of buried national wealth awaiting extraction.

The discursive work being done here has real consequences for which interventions become politically thinkable. When recycling is framed as national self-reliance rather than environmental obligation, certain actors such as NITI Aayog, line ministries, formalised industry are elevated and others are marginalised, majorly the informal workers who currently process the majority of India's waste. The nation, as discursive formation, does not speak for everyone equally. It speaks most fluently for those who can participate in formal production, who hold EPR certificates, who register with the Central Pollution Control Board (CPCB). The imagined community of Atmanirbhar Bharat's circular economy is, in practice, a community with fairly strict entry conditions.

Resource Security, Geopolitics, and the Green Developmental State

While the circular economy as an idea is given its ideological shape by the Atmanirbhar Bharat narrative, its geopolitical content comes from the idea of resource security. The reliance on imported critical minerals is the common theme pointed out in all three reports, and expressed widely in the e-waste and battery report. The availability of end-of-life, recycled lithium-ion batteries is anticipated to increase by 26% annually, from 19 kilotons in 2023 to 233 kilotons in 2035, driven by the growing electric vehicle fleet (NITI Aayog, 2026b). The waste materials recovered minerals like lithium, cobalt, nickel, and manganese among others, which are the same ones that India imports at high cost and risk. Therefore, localising their recovery is a win-win for the environment and the economy.

The ELV report makes the same argument for steel. Around 98 million tonnes of secondary steel could be recovered from vehicles manufactured between 2005 and 2023, resulting in the reduction of approximately 43 MMT equivalent of CO_2 emissions (NITI Aayog, 2026c, p. 3). The recommendation of the tyre report is to decrease "import dependence on key raw materials" and open "new avenues for green employment" (NITI Aayog, 2026a, p. vi). These framings share a common logic that India's waste is its mineral resource, and not recovering it will be self-destructive.

This logic finds its intellectual genealogy in Evans (1995) writing on the East Asian developmental states characterised by their guiding principle as governed interdependence and not autarky, rather the strategic management of global market integration to nurture and develop local industry. India's conception of the circular economy is an ecological manifestation of this principle. The state, in the guise of NITI Aayog, working across MoEFCC, MoRTH, MeitY, MoMines, and several other ministries, presents itself as the strategic orchestrator of a transition that is beyond the scope of the market. It is the notion of the strategic-

relational state as developed by Jessop (2002) that is pertinent here, where a state that does not just regulate but creates the conditions for certain accumulation strategies to be pursued in the first place. The NITI Aayog reports are, therefore, not just policy briefs. They are strategic actions in the making of a green industrial future in India.

A consequence of this geopolitical framing is a specific understanding of India's current recycling achievements as national failure. India recycles only 10% of e-waste compared to a global average of 22%, and 55-56% in the EU and USA (NITI Aayog, 2026b). And, just 12% of retailers comply with their take-back responsibilities. Recycling rates are much higher among informal recyclers, but under less efficient conditions that yield less material value and environmental problems. These are reported in the reports as market and regulatory failure, and at the same time as evidence of strategic failure. The difference between what India could recover and what it actually recovers is cast as a loss of national value, legitimating state action in an area that might be seen as too specialised to be of particular interest to high political authority.

Political Framing of Waste: From Liability to Strategic Resource

The most productive aspect of the NITI Aayog reports is the way they consistently convert waste from an abject category to something valuable. Hajer (1995) argues that environmental discourses not merely describe the world but constitute it. The transition from being named as a 'waste' to a 'strategic resource' creates new regulatory objects, new institutional responsibilities, new investment incentives, and new forms of expertise. The reports points that India's crumb rubber waste in its tyre recycling yards becomes the raw material for road and sports field construction, the black mass of spent batteries becomes the initial material for domestically produced battery-grade lithite and cobalt salts, and, the steel of a worn-out car becomes the secondary resource for India's future automobiles.

EPR is the institutional mechanism for operationalizing this transformation. It makes producers financially accountable for the end-of-life management of their products, embodying environmental costs in the market price for goods as per the prescriptions of ecological modernisation. EPR also spawns new markets for recycling certificates, secondary raw materials, and, eventually carbon credits. Reports point to a number of deficiencies in the EPR framework. The e-waste system only covers four materials, i.e; gold, copper, iron, and aluminium, leaving the recycling of cobalt, lithium and other critical minerals largely unregulated (NITI Aayog, 2026b). The tyre EPR has weightage inconsistencies that skew the value of various recycling methods (NITI Aayog, 2026a). In the case of ELVs, Registered Vehicle Scrapping Facilities can't make a profit, so EPR targets are met in name only (NITI Aayog 2026c). Resolution to these problems lies in creating a new market for secondary materials, one that demands significantly more state capacity to execute than currently exists.

The ecological modernisation paradigm prefers market mechanisms because it is believed they do not require as much state capacity as regulation. But these reports show that the problem with market mechanisms in India's waste management sector is not that markets are inherently bad but that the institutional capacity required to support them is lacking or weak. There are not enough Automated Testing Stations to test vehicle fitness (NITI Aayog, 2026c). There are spurious certifications of e-waste EPR (NITI Aayog, 2026b). (20-25%) of tyre pyrolysis plants are not even regulated (NITI Aayog, 2026a). Thereby, requiring higher state capacity to support the market mechanism, which is more of a political project than a technical one.

The statistics on material flows, recycling rates, estimates of the informal sector, and projections for waste flows are also presented as facts, but they too are political artefacts. The tyre recycling industry in India was not producing 2.68 MMT using pyrolysis with 1.10 MMT of tyre pyrolysis oil, 0.80 MMT of carbon char and 0.30 MMT of steel wire (NITI Aayog, 2026a) as facts until someone decided they were worth counting. The counting is not a neutral act, but an act of governance as it makes the sector governable, provides baselines for regulatory actions, and provides the data that can justify more investment in the circular economy infrastructure. As Scott (1998) observes that states simplify and make legible what they seek to govern. The NITI Aayog reports are, among other things, acts of legibility.

Tensions and Contradictions: Informality, Labour, and Green Justice

The major political issue with India's circular economy policy lies not in reporting or acknowledging but in failure to address the question of informal sector and those who work within. India's e-waste sector alone has more than 5,00,000 informal workers, who reach more people with collection services than the formal sector (but under environmental and health conditions that put them at risk) (NITI Aayog, 2026b, p. 10). In the ELV sector, informal recyclers undercut registered recyclers by offering car owners between ₹15,000 and ₹20,000 more for a mid-sized car, due to the cost savings of operating without environmental compliance requirements (NITI Aayog, 2026c). In the tyre recycling sector, one-fifth to a quarter of pyrolysis plants operate completely outside the law (NITI Aayog, 2026a). They are not a fringe actors but the circular economy as it stands subjected to imperfect, hazardous, but more functional to be replaced the formal economy.

The reports suggest formalisation of informal recyclers as policy response by providing a one-time waiver for accumulated environmental liability, simplified registration procedures, and using the Udyam Assist Platform to register small-scale entrepreneurs (NITI Aayog, 2026a, 2026b, 2026c). This is coherent with the ecological modernisation approach where the informal economy is a market failure to be resolved by institutionalising regulation. However, as Breman (2013) suggests that the informal economy in India is not a marginal sector that needs to be modernised into formal economy rather a structurally induced phenomenon in the political economy, enabled by its usefulness to formal capital (cheap material input, cheap labour) and complicity of the state (weak enforcement, weak taxation). Formalisation measures that fail to address these incentives are likely to be incorporated with little impact.

The reports fail to consider the interests of workers in their discussion of informality. Schlosberg (2007) describes three dimensions of environmental justice as distributive (who bears environmental burdens and who receives environmental benefits), procedural (who gets to participate in environmental decision-making), and recognition (who is acknowledged and respected for their way of life). NITI Aayog reports are deficient on all three fronts. The reports note that informal e-waste workers work in unsafe conditions (exposure to heavy metals and chemicals, lack of personal protective equipment), but fail to make any recommendation for occupational health standards, social security or wage guarantees for workers moving from informal to formal sector. The list of working group members in all three reports is dominated by industry associations, OEMs and ministry officials. There are no members from informal worker's group, unions or civil society organisations working on labour issues in waste recycling. The imagined community of Atmanirbhar Bharat's circular economy does not include those doing most of the recycling.

A second layer of tension is added by fiscal federalism. The tyre report flags the complexity of GST like multiple rates, and lack of HSN codes for recycled rubber products as a key impediment to formalisation and market growth (NITI Aayog, 2026a). The ELV report flags inconsistent concessions from the state on the Certificate of Deposit that undermine the financial viability of formal scrapping businesses across the country (NITI Aayog, 2026c). These are issues that cannot be addressed in the domain of circular economy policy. They need to be coordinated between the Union and state governments on tax policy, between the Ministry of Environment, Forest and Climate Change (MoEFCC) and the Ministry of Finance on fiscal incentives, and between NITI Aayog and the GST Council on tax rates. India's federal polity, which predates the circular economy, makes for inherent tensions that ambitious environmental planning must grapple with and cannot, on its own, solve. This is, again, a political issue that technocratic policy cannot resolve.

Conclusion

The paper has argued that waste is not mere filth. In India's NITI Aayog reports of January 2016, it is a political thing, a site of intersection between nationalism, resource security, industry policy and environmental policy. Atmanirbhar Bharat does heavy lifting as it casts import dependence as national security risk, domestic recycling as national sovereignty, and justifies state intervention in markets, coordination of informal sector activities and industrial development in ways that might be difficult to justify purely on environmental

grounds. This is green developmentalism with ecological modernisation in the service of national developmental sovereignty.

The analysis has also surfaced what this framing suppresses. Half a million informal workers in the e-waste sector feature in the reports primarily as regulatory problems to be formalised, not as social actors with rights and interests deserving of substantive policy attention. The fiscal and federal structures that embed linear economy incentives into India's political architecture are identified as obstacles but not confronted as the structural problems that they are. And the knowledge claims of the reports of being detailed, data-rich, and technically impressive are also political acts of legibility that constitute some actors and interests as relevant to governance while rendering others invisible.

None of this is to say that India should not pursue a circular economy. The environmental and strategic case for recovering secondary materials is real and significant. But the particular form that India's circular economy is taking (nationalist in framing, technocratic in instrument, and inadequately attentive to the people who currently make informal recycling work) deserves closer scrutiny from the perspective of every stakeholder. Atmanirbhar Bharat and the circular economy have now met. The question worth asking is on whose terms?

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